July 15, 2002

Mr. Andrew Trump
Duke Energy
655 3rd St., PMB 49
Oakland, CA 94607

Dear Mr. Trump:

MORRO BAY POWER PLANT PROJECT DATA REQUESTS – HEP/AFB

In accordance with the Committee's Scheduling Order of June 28, 2002, enclosed you will find data requests in the area of biological resources related to Duke's filing of a Habitat Enhancement Program on July 1, 2002. Written responses to the enclosed data requests are due to the Energy Commission staff on or before August 9, 2002, consistent with the Committee schedule. I request that 5 additional copies of the responses be provided to me, over and above the number normally docketed.

If you have any questions regarding the enclosed data requests, please call me at (916) 653-0159.

                              Sincerely,

                              MARC S. PRYOR
                              Energy Facility Siting Project Manager

Enclosure

cc: Morro Bay Power Plant Project Proof of Service List
        Docket (00-AFC-12)

Technical Area: Biological Resources
Author: Andrea Erichsen and Richard Anderson

INTRODUCTION

It is essential for Duke to provide one single document that summarizes the justification (scientific basis of the approach), goals, objectives, model, model parameters, decision tree, and monitoring and evaluation endpoints for the HEP proposal. Staff is looking for a demonstration of a clear and strong nexus between impacts of the project's cooling system on the Morro Bay ecosystem and the proposed HEP as full mitigation for those impacts. Staff requires information that enables reasonable determination that the impacts to all species (not just fish species) and the trophic effects caused by the project are addressed by the HEP proposal. Staff understands that all of the specific details, such as those mentioned in Duke's HEP July 1, 2002 Document 9, may not be available or agreed upon at this time. Nonetheless, staff needs as much detail as possible on these issues in order to complete a full CEQA evaluation of the proposal. Please take this over-arching request into consideration as you address the following data requests.

BACKGROUND

In Attachment B of Tenera's report on Sedimentation in Morro Bay [Document 5 in Duke's in the HEP packet submitted July 1, 2002], there is a model for how to build the HEP using building blocks (included below) for the Morro Bay Power Plant (MBPP) National Pollutant Discharge Elimination System (NPDES) permit. The model presented is purely conceptual and general in nature. In order to understand how, and how well, a proposed HEP would mitigate for the adverse ecosystem impacts of once-through cooling, staff needs much more detail regarding this model.

> The Building Blocks for MBPP NPDES Permit presented in Document 5 of Duke's July 1, 2002 submittal are:
>
> - Building Block 1   - Lower Capacity Pumps
> - Building Block 2   - Permit Limits
> - Building Block 3   - Initial HEP Funding of $6 M
> - Building Block 4   - Pilot AFB
> - Building Block 5   - Additional HEP Funding
> - Building Block 6   - Funding Adjustments Based on Actual Flows

REQUESTS

1.   Is this model the central structure of the HEP proposal? If not, what is the central model of the HEP proposal? If this is the central structure of the HEP, please describe the details of the quantitative models that make up

this conceptual model? Please provide detailed information on the models and impacts used to develop the HEP proposal.

2.   More detailed descriptions of each of building blocks 3, 5 and 6 of this model are needed:

a.   Building Block 3:

i)   How the $6 M was derived? Please provide cost estimates for a fully mitigated MBPP project. This estimate should include adequate habitat protection, habitat restoration, habitat enhancement, habitat creation, and monitoring for success. Cost estimates for each mitigation element must be provided.

ii)   What future adaptive measures will be undertaken if success is not demonstrated? Again, cost estimates for each adaptive measure must be provided.

b.   Building blocks 3 and 5:

i)   What is the target sediment reduction and using what metric and over what period of time?

ii)   What types of land acquisition and easements are realistically available and over what timeframe the lands will be acquired?

iii)   What specific Best Management Practices (BMPs) would be proposed and how would the effects and success of the BMPs be quantified and over what period of time?

iv)   What types of specific restoration measures would be proposed, when, where, and over what period of time? How will success be measured?

v)   Identify contingency measures if some of the restoration measures are not successful and over what period of time these will be implemented.

vi)   Please specify the proportion of HEP projects that would be devoted to habitat restoration, enhancement, or creation.

c.   Building Block 5:

i)   What will happen to building block 5 if building block 4 (AFB) is proven to be feasible?

ii)   Page 5, bullet 3 of the May 23, 2002 letter to Mr. Briggs of the Central Coast Regional Water Quality Control Board ("Board") discusses implementation of a full scale AFB. How would this affect building block 5?

d.   Building Block 6:

   i)   When would building block 6 be implemented?

   ii) What is the time frame and decision mechanism for this part of the model?

   iii) How many times will building block 6 be evaluated (e.g., once, annually, every 5 years, every 10 years)?

BACKGROUND

On page 9 of the Tenera report on Sedimentation in Morro Bay, a discussion begins on the nexus between entrainment impacts and the value of the HEP (Document 5 in Duke HEP July 1, 2002 proposal packet). Staff understands that Habitat Restoration is a method that is supported by US Environmental Protection Agency (USEPA) as mitigation for certain impacts.Staff requires substantial and convincing information on the strength of the nexus to mitigate for the entrainment impacts *throughout the operation lifetime* of the MBPP.

REQUESTS

3.   A model for the HEP is presented on page 11 of the Tenera report. Clearly define each of the variables/parameters in this model, such as the numeric targets for sediment control. Please provide a thorough explanation of their relationship to one another, how they will be used in the HEP (calculations, feedback loops, timing of recalculations) and clearly state all assumptions of the model.

4.   Staff understands the rationale and scientific evidence for using eelgrass and mudflat habitats as focal habitats to be restored and protected from sedimentation (assuming the nexus is valid). Please provide more specific objectives, goals, and actions (including the spatial and temporal aspects of monitoring, types of monitoring, and the duration of the restoration and monitoring activities) related to restoring these "indicator" habitats.

BACKGROUND

In Table 1 of the Tenera report (Document 5 in Duke the July 1, 2002 HEP packet), there is a list of species, habitats, elevations and expected benefits from restoration via reduction in sedimentation. Certainly the species list is not at all inclusive and complete. Nor is the listing of elevations (-20 to 12), locations of habitats, and habitat types comprehensive. The table does not provide staff with any clear idea about how this somewhat useful information may function within the proposed HEP. Staff requires more background on this table and how the Applicant intends to use the information in the HEP.

REQUESTS

5. Please provide a discussion of how the species listed in the table were chosen and how the proposed HEP is related to this table, as modified from Josselyn (1988). Describe the connection between the parameters provided in Duke's modified table and how the HEP's actions are related to the information in the table.

6. Please provide maps showing the locations of specific habitats that the proposed HEP would restore, by habitat type and elevation.

7. Please include an analysis and literature review of how other factors harming the bay, e.g. non-point source pollution, bacteria, pesticides, heavy metals, exotic species, may also impact the "indicator" habitats in their locations. How will the HEP separate out the effects of these other significant stressors, which are multiple variables in the equation of stressors simultaneously degrading the habitats, ecosystem productivity, and the ecological dynamics of the various trophic levels of Morro Bay?

8. Please provide a more thorough and appropriate list of wildlife species and habitats that would benefit by habitat restoration/protection. How would the benefits and successful mitigation to those species and habitats chosen for restoration be monitored and over what period of time? Is the intention of Duke's HEP to simply monitor a few fish populations, and/or eelgrass and mudflat habitat size?

BACKGROUND

Duke's statements regarding the AFB discussion on page 69 of Attachment 2 [Document 6 within Duke's July 1, 2002 HEP packet] misrepresent staff's position and most importantly, misrepresent the available scientific and practical information on AFB deployment. Staff has repeatedly requested scientific, objective information (not sales pamphlets) from the Applicant and Gunderboom (during a presentation they made at the Energy Commission), in order to provide supportive information on the feasibility, effectiveness, durability, and overall performance and ease of maintenance for the AFB.

Although Duke considers the AFB to be a pilot project, staff believes that it is part of the MBPP project and is, therefore, subject to a rigorous review and evaluation. Staff has yet to receive any of this requested information. Staff has only found published and somewhat limited information on the problems with the AFB at one or two locations. Staff is not opposed to the AFB in principle and would be pleased if it were a feasible and effective technology. However, staff cannot reasonably be expected to support such a "mitigation" under conditions lacking supportive credible data, nor can we support inclusion of an AFB in a Commission decision without detailed information about its design, installation, and implementation.

Morro Bay is recognized both federally and at the state level for its uniqueness and ecological value. It is also a protected resource that supports numerous special status species. If Duke intends to continue arguing that AFB technology may be Best Technology Available (BTA) for reducing biological impacts to Morro Bay then it will need to provide credible, objective, and scientific evidence that it will work in Morro Bay, a small coastal estuary with a unique physiography.

REQUESTS

9. If Duke intends to argue that the AFB may be BTA, please provide the credible, objective and scientific data that support this critical assertion for a power plant with similar water requirements.

10. On page 69 Duke states "During that timeframe [of approval and building of the project],.. full-scale AFBs are expected to be in operation at two locations with similar flows to that projected for Morro Bay." Please tell staff precisely where these projects are, the cooling water volumes, and what flows are in the estuaries where they will be built. Please provide as much detail as possible including, but not limited to, the degree of similarity these other locations have with Morro Bay in terms of physiography, biological resources, public use, and concerns for public safety.

11. Please provide information on how long these two full-scale AFBs have been operating and the amount of water pumped through the AFBs annually since installed. If these AFBs are not currently operational, please provide information on the planning, permitting, and deployment status and schedule, including when they are expected to be deployed and the amount of water that is anticipated to be pumped through the AFBs. If a full-scale AFB is required to operate and perform its job *in-situ* for numerous years, will there be sufficient data to show that the AFBs perform well enough at those locations as well as in Morro Bay (using the pilot AFB)?

12. How long will the pilot AFB be studied before its performance, durability, and effectiveness are determined? What evidence is there that the pilot AFB will successfully serve as a surrogate model for predicting the feasibility of the full-scale AFB?